Appendix A – GN Docket No. 12-91

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of a Proposal to Create a National Emergency Administrative Radio Service (NEARS)	)	**RM No._____**
By W. Lee McVey, P.E.	)	
To: The Commission	)	

PETITION FOR RULEMAKING

As a long time licensee of the Commission in both Amateur and Commercial facets of telecommunications, I offer the following proposal. Its consideration and adoption will require the concurrence of the National Telecommunications and Information Administration (NTIA), Department of Commerce, as it proposes creation of a new radio service in the interest of public health, safety and security.

I. Introduction

1. The National Communications System was created to meet the National Security, Emergency Planning and Execution directives delineated at 47CFR 203 (c)-(e). The Shared

Resources High Frequency Network, (SHARES) is a key component of the NCS and serves to facilitate intercommunication during and following national emergencies at the regional and national level. While SHARES meets long-range telecommunication requirements via the 2-30MHz high frequency band, there is no local, impact-area-focused service like it that would satisfy intercommunication needs at the affected-site group, unit or responder levels. Also, there is no means to directly link the SHARES system with impacted area operations in order to receive or disseminate action information.

II. Proposal

2. This Petition proposes the creation of a new radio service, the National Emergency Administrative Radio Service (NEARS), in order to fulfill the above directives.[1] This Petition has been submitted in similar form as an Appendix to my Comments in the Hurricane Katrina Independent Panel Proceeding 06-119. The Final Order of the proceeding included a commitment by the Commission to work with the NTIA to develop such a service. To date, nothing further has been published concerning the Petition.[2]

3. The purpose of this service, and the spectrum set aside for it, would be to facilitate interoperability between military, federal, state and local government public safety-aid officials/responders, utilities and amateur radio operators during and immediately following national emergencies. The proposal would require the assignment of several frequencies in a

[1] See 47**CFR§**202.3(d) "Performance of essential government and public services during a national emergency, ..., will require a means for communications between government and the private sector, communications essential to operations of elements of the national economy, and communications for national defense and civil defense purposes." See also Appendix to 47**CFR§**216, NCS Directive [3-3] The SHARES HF Radio Program.
[2] See 72**FR**37655 *Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina* at 95.

high-band VHF radio allocation, now assigned exclusively to the federal government.[3] A fleet of analog FM two-way radios and associated portable, mobile relay systems to enable extended range operation could be made available for use in this segment to facilitate interoperability.

II. Background

4. The experience of several severe national and regional emergencies[4] has shown us the frail, non-robust nature of modern wireless and wireline telecommunications systems fixed infrastructure.

5. It is common knowledge that during and after massive national and regional-scale catastrophes, normal telecommunications systems are often damaged or destroyed leading to exacerbated damage to property, personal injury and loss of life from the inability to respond to emergencies. If not completely destroyed, telecommunications assets are often disabled to the extent that they cannot be depended upon or are insufficiently available to those whose responsibilities are to save lives by being dispatched to help the injured or those yet in harm's way. Under present circumstances, normal public safety systems are incapable of interoperability with our military, National Guard, federal agencies and other assisting entities. Not so much because of system incompatibility, but more the result of lacking licensee

[3] The frequency band is now utilized by the Civil Air Patrol (CAP), the Military Auxiliary Radio System (MARS), NASA, and some military facilities for routine communications. Both the CAP and MARS uses now support the intent and purpose of this Petition as much of their operations involve military and public safety, health and welfare. MARS is an active participant in the SHARES system. MARS operators are, for the most part, licensed Amateur Radio operators.

[4] The attack of September 11, 2001, Hurricane Katrina, and numerous major storm, earthquake and forest fire events.

authorization, frequency coordination and channel assignment. Just when effective interoperability is needed the most, it is not available or in very limited form.

6. Public safety networks in many cases no longer use converntional analog VHF FM for communications and have migrated to 700 or 800MHz trunked radio systems. If the control equipment of trunked systems were to be disabled by the event, system users become essentially a fleet of low power simplex mobile units capable of only talking unit-to-unit to other mobile users on the same channel, a very short distance away. These cellular telephone-like radio systems by concept require use of very low power mobile and portable units in order to reuse frequency pairs within a given system. For instance, in New Orleans, following Hurricane Katrina, the entire police and fire department trunked radio system was unavailable for several days. Following the events of September 11, 2001, in New York City, multiple trunked systems were lost. Together with destruction of communications assets, in New York City it was different trunked systems, protocols that weren't the same, and the sheer number of responders that made interoperability nearly impossible.

7. Following Hurricane Katrina, not only was the New Orleans system itself useless for many days, but incoming units from the military, Coast Guard and a multiplicity of other state, local and federal agencies could not effectively intercommunicate and interoperate due to the myriad of different radio band, mode and frequency assignments. Many mutual aid agencies from distant locations came with digital protocol feature radios, further complicating the situation.[5] Only a few military units, the Coast Guard and available amateur radio operators with modified

[5] The Manatee County Florida Sheriff's Office brought along a portable, trunked relay apparatus with a portable tower so that its EDAC trunked radio units could communicate with each other and their mobile command post. The range of use owning to the relatively low level portable tower was only a few miles.

radios were able to interoperate, thanks to frequency agility and proximity of assigned spectrum and the common use of narrow-band, analog FM equipment.

8. The new 700MHz national public safety and broadband allocation is not a solution for major crises. Due to the massive expense involved with moving all agencies across our nation to this band and the propagation and coverage vulnerabilities associated with the frequencies have limited the extent of the transition. Agencies in mountainous or remote terrain, such as exists in some of the Western and Mid-Western states and the Northeast are unwillling to move to the segment due to coverage concerns.

9. Even if all regional public safety agencies were to agree to relocate to 700MHz, the military, National Guard and the Coast Guard could not be so universally equipped with multi-protocol trunked radio equipment that they could respond with any vehicular or aircraft units and be able to interoperate on trunked radio systems. Their mobile, base and person-to-person operations are conducted primarily on a portion of the high-band VHF spectrum from 148 to 174MHz using analog, narrow-band FM voice.

10. In order to meet this need, both spectrum and mode for NEARS should be selected that are presently being used and within close proximity to existing authorized allocations for all potential users. The military, the National Guard and the Coast Guard use 5kHz deviation, analog FM voice mode. Public safety and utility users that are still on VHF allocations are converting to narrow-band, 2.5kHz analog FM. Amateur radio operators use 5kHz analog FM voice extensively, and in many instances, their equipment can operate using narrow-bandwidth, 2.5kHz analog mode as well.

11. The 148 to 150MHz federal band would meet the need for such spectrum. It is currently sparsely used by federal agencies and is within 12 MHz of public safety allocations, the maritime service, and the 144 to 148MHz Amateur Radio Service allocation. Most modern commercial radio equipment, now type-accepted for use under Part 90, is capable of operation from roughly 140MHz to 170MHz without significant internal retuning or modification. In addition, Coast Guard and military units are equipped with narrow to medium bandwidth VHF radios operating below 160MHz as well, with direct keypad frequency-entry-capability in most cases. Any frequency in the 148-150MHz segment could simply be selected via keypad entry. Amateur radio operators, by virtue of their adjacent allocation and direct front panel keypad frequency entry capability, could easily modify their equipment to operate within this segment, if necessary, as they do now on HF frequencies as key participants in the SHARES system and on the Military Auxiliary Radio System (MARS). Existing VHF MARS and Civil Air Patrol (CAP) operations already use several channels within the 148 to 150MHz segment.

12. Beside the need to designate an allocation and perhaps shift existing users somewhat, depending on the amount of spectrum needed for NEARS, a change to existing Part 90 regulations would be desirable to permit type-acceptance of keypad-frequency-programmable radios for optimum flexibility for NEARS application. There are several relatively inexpensive radios manufactured by Motorola, Inc., for export use that already incorporate keyboard programmability. The GP-68, GP-338 and JT-1000 models are three handheld radio examples that come to mind. There are other frequency agile products designed for use by our military and internationally with direct keyboard frequency entry capability.

13. Creation of NEARS would not require wholesale retooling or a lengthy and complicated coordination process, since not many channels would be needed for such a service. Two to four discrete frequencies with necessary separation for mobile relay stations could be interspersed between existing users. Selected so as to avoid NTIA's already-coordinated uses by CAP, NASA, and MARS, for example.

14. The cost to the federal government would be minimal by virtue of the compatibility of most, if not all government service radio equipment that would be involved in emergency operations, including the military. State and local public safety entities may need to purchase a few additional, frequency-agile radios, or could easily add frequencies to on-hand portable and mobile high band VHF equipment to operate on all of the frequencies pre-selected and coordinated for interoperability in this band.

15. Creation of this service would fulfill the need for immediate affected area interoperability of communications following crises. Even though regulations do permit use of unassigned service frequencies in emergencies, the lack of physical equipment and the means to keyboard program to enable such operation has left emergency responders without the needed means to do so.

16. While it was laudable for Commission Staff to have relocated temporarily to New Orleans following Katrina in order to grant Special Temporary Authority to operate mobile and relay stations, it did not provide the additional radio hardware with which to intercommunicate with other agencies. This proposal, if adopted, would permit the advance frequency coordination, licensure and acquisition of new, or preparation of existing VHF equipment to be used for such purposes so that future responses could be more effective.

17. This matter is urgent, and deserves the immediate attention of the Commission as its consideration and implementation may lessen adverse consequences following large-scale emergencies and improve operational effectiveness.

I wish to thank the Commission in advance for the opportunity to submit this Petition and await its response.

Respectfully Submitted,

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